Kansas Behavioral Health Risk Bulletin

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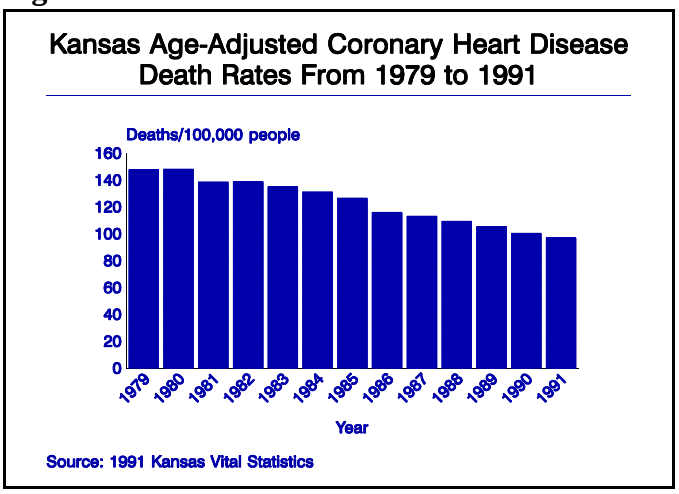
Coronary Heart Disease in Kansas

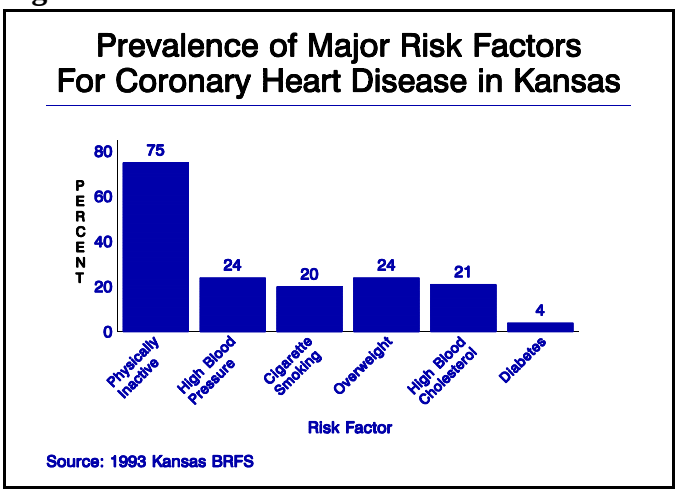
Coronary heart disease (CHD) is a disease of the blood vessels which feed the heart. CHD usually develops when the vessels become blocked by cholesterol plaques. This causes impaired circulation to the heart and leads to angina (chest pain), heart attack, and sudden death. Coronary heart disease is the leading cause of death in Kansas and is a principal cause of disability and illness. In 1991, one out of every four deaths in Kansas was caused by coronary heart disease. However, since 1979 the age-adjusted mortality rate from coronary heart disease (Fig. 1) has fallen over 34%[1].

Figure 1



Major risk factors (Fig. 2) responsible for CHD are high blood pressure, high blood cholesterol, cigarette smoking, obesity, physical inactivity, and diabetes mellitus. Prevalence rates for these risk factors were collected through the Kansas BRFSS program. The BRFSS (Behavioral Risk Factor Surveillance System) survey (conducted by the Kansas Department of Health and Environment, Bureau of Chronic Disease and Health Promotion) is a random-digit-dialed telephone survey conducted to assess the prevalence of and trends in health related behaviors in the adult population (18 years and older) of Kansas.

Figure 2



This bulletin will examine the risk factors associated with the development of CHD, the groups most at risk for coronary heart disease, recommendations on how to decrease the risk of developing heart disease by modifying behavior and utilizing health care options, and the Healthy Kansans 2000 objectives for CHD.

Demographics : Groups at increased risk of developing coronary heart disease include persons over 65 years old (Fig. 3), men (being more than twice as likely as women to develop CHD (Fig. 4)), African-Americans, and Kansans with lower education and income levels.

Figure 3

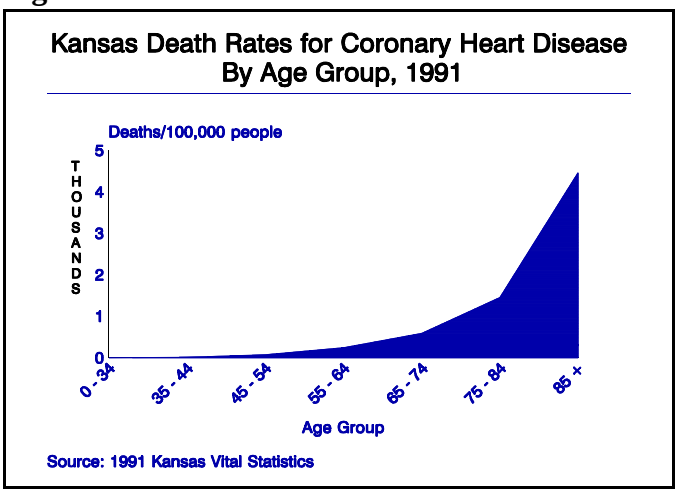
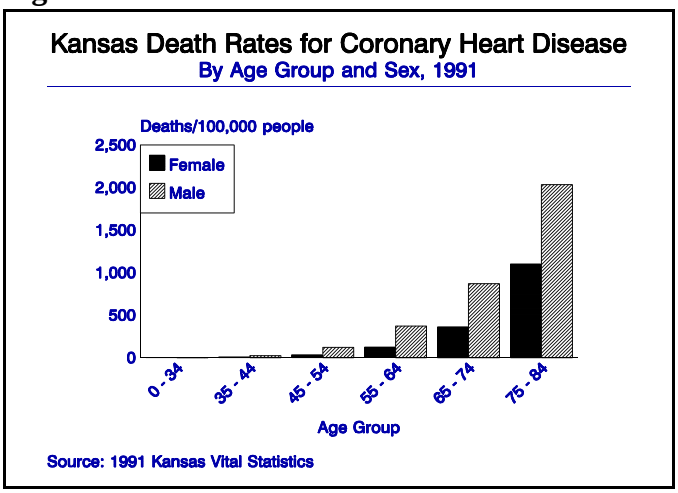


Figure 4



Hypertension: Blood pressure is the amount of force that blood exerts against the walls of the arteries. Excessive pressure can cause damage to both the blood vessels and organs (brain, heart, kidneys, etc.). Although normal blood pressure varies with age, a person with a systolic blood pressure of 140 mm Hg or greater and/or diastolic blood pressure of 90 mm Hg or greater is usually considered to have high blood pressure. People with hypertension (high blood pressure) have three to four times the risk of coronary heart disease as people who have a normal blood pressure level[2]. In addition, uncontrolled hypertension can have serious consequences such as blindness, kidney failure, and stroke.

The 1993 BRFSS survey found that about one fourth of adult Kansans (24%) have been told by a health professional that they have high blood pressure, with women (26%) reporting higher rates than men (21%). Hypertension is more prevalent among Kansans 55 years of age or older (44%), African-Americans (44%), and Kansans with lower education levels.

Interventions which help to control hypertension include regular blood pressure checks, engaging in regular physical activity, reducing sodium intake in diet, weight reduction, cessation of smoking, and moderation or cessation of alcohol intake. In cases where these interventions fail then medication may be prescribed.

High Blood Cholesterol: Cholesterol is a fatty substance found in the blood which forms deposits on the inner walls of the arteries when present in excessive levels. These deposits narrow the vessels thereby decreasing blood flow. Borderline-high (200 mg/dL to 239 mg/dL) blood cholesterol levels result in increased risk of developing coronary heart disease. At high blood cholesterol levels (240 mg/dL or higher) the risk of CHD doubles. High blood cholesterol is responsible for about 30% of coronary heart disease[3].

The 1993 BRFSS survey reports that 66% of adult Kansans stated that they have been checked or screened for blood cholesterol levels. Of those Kansans who have ever had their blood cholesterol checked, 21% have been told by their health care providers that they have high blood cholesterol levels. The prevalence of high blood cholesterol was slightly higher in females (23%) than males (19%), and Caucasians have higher rates than other races. The incidence of high blood cholesterol also increases with advancing age.

Interventions to prevent CHD due to high blood cholesterol include raising the awareness of people regarding cholesterol screening (34% of Kansans have never been screened) and control of cholesterol levels by dietary modifications, medical treatment, and regular monitoring of cholesterol levels in the blood. It is recommended by the National Cholesterol Education Program (NCEP) that blood cholesterol be measured every 5 years, or every year if the person is borderline-high or "at risk"[4]. The NCEP recommends a diet low in saturated fatty acids, total fat, and cholesterol to help control and prevent high blood cholesterol[5]. Medications may be prescribed when necessary.

Cigarette Smoking: Cigarette smoking is the single most preventable cause of death (due to chronic diseases caused by smoking) in Kansas. Cigarette smokers have a risk of developing coronary heart disease two to three times greater than non-smokers[6]. Smoking is responsible for one-fifth (21%) of all coronary heart disease deaths (40% of CHD deaths for people under age 65)[7]. Cigarette smoking can also increase a person's risk of many forms of cancer, stroke, and lung disease (e.g.: emphysema).

The 1993 BRFSS survey reported that one-fifth (20%) of all respondents are current smokers with 22% of males and 19% females currently smoking. The highest prevalence of smokers by age occurred in men between the ages of 35 and 54 (31%) and women between the ages of 18 and 24 (28%). The prevalence of smoking decreases with higher education levels; 27% of Kansans without a high school diploma smoke compared to 13% of Kansans with a college degree. Kansans with lower incomes are also more likely to smoke than Kansans with higher incomes.

Because of the highly addictive nature of tobacco, it is especially important to prevent smoking initiation among young people (under 21 years old). Interventions may include prevention education and tobacco-free environments in schools, restrictions on tobacco advertising and promotions targeting youth, and greater enforcement of prohibition of tobacco sales to minors. Restricting smoking in the workplace and other public places, assistance to persons trying to stop smoking, and raising tobacco taxes also appear to decrease the prevalence of smoking.

Overweight: Overweight is defined as a body mass index (BMI)* equal to or greater than 27.8 for men and 27.3 for women. Being overweight increases a persons risk of developing coronary heart disease. It also increases the chances of developing hypertension, high blood cholesterol, and diabetes.

The 1993 BRFSS survey reported that 24% of respondents were overweight. The prevalence of overweight residents increases until age 65 at which point it begins to decrease. Hispanics (37%) and African-Americans (33%) were at highest risk for being overweight. Kansans with lower income levels were more likely to be overweight.

Body weight can be changed through physical activity and dietary control. A diet low in fat along with exercise at least 3 times a week is recommended.

Physical Inactivity: Physical inactivity is defined as exercise less than 3 times per week for less than 20 minutes per session. The chance of developing coronary heart disease is twice as high for people who are physically inactive as compared to active people[6]. More Kansans are at risk for CHD due to physical inactivity than any other CHD risk factor. Physical inactivity contributes to hypertension and obesity as well.

According to 1993 BRFSS survey, three-fourths (75%) of adult Kansans are physically inactive. Males and females showed about the same rate of physical activity. The prevalence of physical inactivity increases with advancing age. Kansans with lower education and income levels were more likely to be physically inactive.

Possible interventions are greater health education about the benefits of physical activity and motivation for involvement in physical activities directed towards making people more physically fit. Physical activity at least 3 times a week for at least 20 minutes each time is recommended.

Diabetes: Diabetes Mellitus (DM) is a debilitating chronic disease in which the body is incapable of adequately producing and/or using insulin, which is necessary to convert glucose into energy. A person with diabetes is two to three times more likely to develop coronary heart disease and the complications of CHD are more severe and deadly for diabetics than for non-diabetics of the same age[8]. CHD is involved in 60% of deaths among diabetics[6]. The long term complications of uncontrolled diabetes include blindness, end stage

* Body Mass Index (BMI) is calculated by dividing weight in kilograms by the square of height in meters (kg/m^2).

renal disease (ESRD), perinatal mortality, hypertension, and circulatory problems resulting in amputation and life threatening infections.

According to the 1993 BRFSS survey, 4.4% of adult Kansans reported being told by a doctor that they have diabetes. Diabetes increases with advancing age and is most prevalent (14%) in older Kansans (aged 65 and older). Native Americans are most at risk for developing diabetes followed by African-Americans and Hispanics. Kansans with lower income and education levels are more likely to have diabetes.

The most important factor in diabetes management is strict control of blood glucose by weight loss, dietary modification, and medications. The control of diabetes also requires regular monitoring of blood glucose levels, and regular check-ups by a health care professional.

Healthy Kansans 2000 Objectives: Healthy Kansans 2000 is a document (to be published in the spring of 1995) which establishes health priority areas and objectives for improving overall health in Kansas. These objectives are set for different risk factors and are intended to be achieved by the year 2000 by using various intervention strategies. The Healthy Kansans 2000 objectives for coronary heart disease are to reduce coronary heart disease deaths to 68 deaths per 100,000 people (all races) and 74 deaths per 100,000 people for African-Americans.

Coronary Heart Disease Objectives

	Kansas 1991	Healthy Kansans 2000 Objective
CHD deaths per 100,000 people (all races)	97.1	68
CHD deaths per 100,000 people (African-Americans)	105.7	74

References:

1 Kansas Dept. of Health and Environment *Annual Summary of 1991 Vital Statistics.* Topeka, KS: KDHE, 1993.

2 Dawber, T.R. *The Framingham Study: The Epidemiology of Atherosclerotic Disease.* Cambridge, MA: Harvard University Press, 1980: pp 172-189.

3 Anda RF. Elevated Blood Cholesterol. IN: Brownson RC, Remington PL, Davis JR, eds. *Chronic Disease Epidemiology and Control.* APHA, Baltimore, MD: Port City Press, 1993: pp 123-135.

4 National Institutes of Health. *Report of the Expert Panel on Detection, Evaluation, and Treatment of High Blood Cholesterol in Adults.* Washington, D.C.: Dept of Health and Human Services, Public Health Service, 1989. NIH publication 89-2925

5 National Institutes of Health. *Report of the Expert Panel on Population Strategies for Blood Cholesterol Reduction.* Washington, D.C.: Dept of Health and Human Services, Public Health Service; 1990. NIH publication 90-3046

6 Pratt M, Smith CA. Cardiovascular Disease. In: Brownson RC, Remington PL, Davis JR, eds. *Chronic Disease Epidemiology and Control.* APHA, Baltimore, MD: Port City Press, 1993: pp 83-107.

7 *Healthy People 2000, National Health Promotion and Disease Prevention Objectives.* Washington, D.C.: Dept of Health and Human Services, Sept 1990. DHHS publication 91-50212

8 Barrett-Conner E, Orchard T. Diabetes and heart disease. In: *Diabetes in America: Diabetes Data Compiled 1984.* Bethesda, MD: US Dept of Health and Human Services; 1985:XVI1-XVI41. NIH publication 85-1468

For additional information regarding this report contact:
BRFSS Program Coordinator
Kansas Department of Health and Environment
Bureau of Chronic Disease and Health Promotion
900 SW Jackson
Topeka, KS 66612-1290
(913) 296-1207